

03-0964

IN THE CLAIMS

1. (original) A method of designing a packaged integrated circuit, including a package substrate and an integrated circuit, the method comprising the steps of:
designing the integrated circuit with a plurality of integrated circuit standardized
functional blocks, where each of the plurality of integrated circuit
5 standardized functional blocks has a known function and a known
integrated circuit contact array pattern, and the integrated circuit is
designed by selecting desired ones of the integrated circuit standardized
functional blocks according to functions desired for the integrated circuit,
and
10 designing the package substrate with a plurality of package substrate standardized
functional blocks, where each of the plurality of package substrate
standardized functional blocks has a known package substrate contact
array pattern, a known signal trace routing layer pattern, a known ground
plane layer pattern, and a known power plane layer pattern,
15 where a given one of each of the plurality of package substrate standardized
functional blocks is associated with a given one of the plurality of
integrated circuit standardized functional blocks, and the package
substrate is designed by selecting package substrate standardized
functional blocks associated with the desired ones of the integrated circuit
20 standardized functional blocks.
2. (original) The method of claim 1 wherein the known signal trace routing layer
pattern comprises patterns for a plurality of known signal trace routing layers.
3. (original) The method of claim 1 wherein the known ground plane routing layer
pattern comprises patterns for a plurality of known ground plane routing layers.
4. (original) The method of claim 1 wherein the known power plane routing layer
pattern comprises patterns for a plurality of known power plane routing layers.

BEST AVAILABLE COPY

03-0964

5. (currently amended) A method of designing a packaged integrated circuit, including a package substrate and an integrated circuit, the method comprising the steps of:
- 5 designing the integrated circuit with a plurality of integrated circuit standardized functional blocks, where each of the plurality of integrated circuit standardized functional blocks has a known function and a known integrated circuit contact array pattern, and the integrated circuit is designed by selecting desired ones of the integrated circuit standardized functional blocks according to functions desired for the integrated circuit,
- 10 and
- 15 designing the package substrate with a plurality of package substrate standardized functional blocks, where each of the plurality of package substrate standardized functional blocks has a known package substrate contact array pattern, a known signal trace routing layer pattern, a known ground plane layer pattern, and a known power plane layer pattern,
- 20 where a given one of each of the plurality of package substrate standardized functional blocks is associated with a given one of the plurality of integrated circuit standardized functional blocks, and the package substrate is designed by selecting package substrate standardized functional blocks associated with the desired ones of the integrated circuit standardized functional blocks,
- 25 ~~The method of claim 1~~ wherein the given one of each of the plurality of package substrate standardized functional blocks that is associated with the given one of the plurality of integrated circuit standardized functional blocks are aligned so as to meet between the integrated circuit and the package substrate.
6. (currently amended) A method of designing a packaged integrated circuit, including a package substrate and an integrated circuit, the method comprising the steps of:

BEST AVAILABLE COPY

03-0964

5 designing the integrated circuit with a plurality of integrated circuit standardized
 functional blocks, where each of the plurality of integrated circuit
 standardized functional blocks has a known function and a known
 integrated circuit contact array pattern, and the integrated circuit is
 designed by selecting desired ones of the integrated circuit standardized
10 functional blocks according to functions desired for the integrated circuit,
 and

designing the package substrate with a plurality of package substrate standardized
 functional blocks, where each of the plurality of package substrate
 standardized functional blocks has a known package substrate contact
 array pattern, a known signal trace routing layer pattern, a known ground
15 plane layer pattern, and a known power plane layer pattern,

where a given one of each of the plurality of package substrate standardized
 functional blocks is associated with a given one of the plurality of
 integrated circuit standardized functional blocks, and the package
 substrate is designed by selecting package substrate standardized
20 functional blocks associated with the desired ones of the integrated circuit
 standardized functional blocks,

~~The method of claim 1~~ wherein the package substrate contact array pattern of the
 given one of each of the plurality of package substrate standardized
 functional blocks that is associated with the integrated circuit contact array
25 pattern of the given one of the plurality of integrated circuit standardized
 functional blocks are aligned so as to meet between the integrated circuit
 and the package substrate.

7. (original) A method of designing a package substrate for a packaged integrated
circuit, including the package substrate and an integrated circuit having a plurality
of integrated circuit standardized functional blocks, where each of the plurality of
integrated circuit standardized functional blocks has a known function and a
5 known integrated circuit contact array pattern, the method comprising the steps
 of:

BEST AVAILABLE COPY

03-0964

10 designing the package substrate with a plurality of package substrate standardized functional blocks, where each of the plurality of package substrate standardized functional blocks has a known package substrate contact array pattern, a known signal trace routing layer pattern, a known ground plane layer pattern, and a known power plane layer pattern,

15 where a given one of each of the plurality of package substrate standardized functional blocks is associated with a given one of the plurality of integrated circuit standardized functional blocks, and the package substrate is designed by selecting package substrate standardized functional blocks associated with the integrated circuit standardized functional blocks.

8. (original) The method of claim 7 wherein the known signal trace routing layer pattern comprises patterns for a plurality of known signal trace routing layers.
9. (original) The method of claim 7 wherein the known ground plane routing layer pattern comprises patterns for a plurality of known ground plane routing layers.
10. (original) The method of claim 7 wherein the known power plane routing layer pattern comprises patterns for a plurality of known power plane routing layers.
- 5 11. (currently amended) A method of designing a package substrate for a packaged integrated circuit, including the package substrate and an integrated circuit having a plurality of integrated circuit standardized functional blocks, where each of the plurality of integrated circuit standardized functional blocks has a known function and a known integrated circuit contact array pattern, the method comprising the steps of:
designing the package substrate with a plurality of package substrate standardized functional blocks, where each of the plurality of package substrate standardized functional blocks has a known package substrate contact array pattern, a known signal trace routing layer pattern, a known ground plane layer pattern, and a known power plane layer pattern,
10

BEST AVAILABLE COPY

03-0964

where a given one of each of the plurality of package substrate standardized functional blocks is associated with a given one of the plurality of integrated circuit standardized functional blocks, and the package substrate is designed by selecting package substrate standardized functional blocks associated with the integrated circuit standardized functional blocks.

~~The method of claim 7~~ wherein the given one of each of the plurality of package substrate standardized functional blocks that is associated with the given one of the plurality of integrated circuit standardized functional blocks are aligned so as to meet between the integrated circuit and the package substrate.

12. (currently amended) A method of designing a package substrate for a packaged integrated circuit, including the package substrate and an integrated circuit having a plurality of integrated circuit standardized functional blocks, where each of the plurality of integrated circuit standardized functional blocks has a known function and a known integrated circuit contact array pattern, the method comprising the steps of:

designing the package substrate with a plurality of package substrate standardized functional blocks, where each of the plurality of package substrate standardized functional blocks has a known package substrate contact array pattern, a known signal trace routing layer pattern, a known ground plane layer pattern, and a known power plane layer pattern,

where a given one of each of the plurality of package substrate standardized functional blocks is associated with a given one of the plurality of integrated circuit standardized functional blocks, and the package substrate is designed by selecting package substrate standardized functional blocks associated with the integrated circuit standardized functional blocks,

~~The method of claim 7~~ wherein the package substrate contact array pattern of the given one of each of the plurality of package substrate standardized functional blocks that is associated with the integrated circuit contact array

BEST AVAILABLE COPY

03-0964

pattern of the given one of the plurality of integrated circuit standardized functional blocks are aligned so as to meet between the integrated circuit and the package substrate.

- 13. (canceled)
- 14. (canceled)
- 15. (canceled)
- 16. (canceled)

- 5 17. (currently amended) A method of designing a first electronic structure for a unified circuit structure, including the first electronic structure and a second electronic structure having a plurality of second standardized functional blocks, where each of the plurality of second functional blocks has a known function and a known second contact array pattern, the method comprising the steps of:
designing the first electronic structure with a plurality of first standardized functional blocks, where each of the plurality of first standardized functional blocks has a known first contact array pattern, a known signal trace routing layer pattern, a known ground plane layer pattern, and a
10 known power plane layer pattern,
where a given one of each of the plurality of first standardized functional blocks is associated with a given one of the plurality of second functional blocks,
and the first electronic structure is designed by selecting first standardized functional blocks associated with the second functional blocks,
15 ~~The method of claim 13~~ wherein the given one of each of the plurality of first standardized functional blocks that is associated with the given one of the plurality of second functional blocks are aligned so as to meet between the first electronic structure and the second electronic structure.

- 5 18. (currently amended) A method of designing a first electronic structure for a unified circuit structure, including the first electronic structure and a second electronic structure having a plurality of second standardized functional blocks, where each of the plurality of second functional blocks has a known function and a known second contact array pattern, the method comprising the steps of:

BEST AVAILABLE COPY

03-0964

10

designing the first electronic structure with a plurality of first standardized functional blocks, where each of the plurality of first standardized functional blocks has a known first contact array pattern, a known signal trace routing layer pattern, a known ground plane layer pattern, and a known power plane layer pattern,

15

18. where a given one of each of the plurality of first standardized functional blocks is associated with a given one of the plurality of second functional blocks, and the first electronic structure is designed by selecting first standardized functional blocks associated with the second functional blocks,

20

~~The method of claim 13 wherein the first contact array pattern of the given one of each of the plurality of first standardized functional blocks that is associated with the second contact array pattern of the given one of the plurality of second standardized functional blocks are aligned so as to meet between the first electronic structure and the second electronic structure.~~

19. (canceled)

20. (canceled)